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ABSTRACT

An examination of trends in the service industries, as determined by U.S. Bureau of the Census figures (1970-77), reveals it to be the fastest growing sector in the economy, both nationally and rurally. Employment in this sector increased 24% nationally and accounted for 74% of the net gain in nonmetropolitan employment: growth was at least 65% faster than the goods sector in rural areas. Because of the heterogeneous nature of the service sector, some economists believe that it is parasitic, but this is not apparent when looking at its role in the rural economy and quality of life. Its services are not seen as taking activity away from other areas, and because it is labor-intensive, making few demands on public resources, it can meet public ecological goals. It can smooth area employment fluctuations by absorbing unemployment from other areas and providing opportunities for local residents and in-migrants. Assuming a continuation in decentralization and an improvement in technology, the demand for services should increase, and if transportation costs continue to rise (while those for communication and information decrease), there should follow smaller, less specialized, and more "clustered" services, making citified services more accessible to rural residents. Growth in this sector can integrate local economies, and can be guided by government control and policies. (JD)

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THE SERVICE SECTOR AND RURAL AMERICA: ISSUES FOR PUBLIC POLICY AND TOPICS FOR RESEARCH*

Mark David Menchik

Both nationally and in rural America, the service sector is the fastest growing sector in the economy. It is also the least understood, which is unfortunate because its role in creating jobs and enhancing the quality of life may make it a prime component of rural development policies.

Other essays in this volume consider specific service industries (such as health, education, and government); we therefore cast a broader net here, examining trends and background concepts that are common among service industries and that distinguish the service sector from the rest of the economy. Next we raise issues underlying the service sector's rural roles. If (as is likely) the service sector continues to grow, how may rural economies and other aspects of rural life be affected? What problems, opportunities, and choices does this pose for government decisionmakers? Finally, we explore how changing service technologies and transport cost may influence rural access to services.

TRENDS AND BACKGROUND

Definition

The definition of the service sector is a matter of dispute, for it is usually a residual category. Some observers define services broadly to include all but the goods-producing industries; that is, they exclude agriculture, mining, construction, and manufacturing. Others narrow this definition, variously excluding transportation, communications, utilities, trade, government, and nonprofit activities. (Stigler, 1956:47 and Fuchs, 1969:14-17 discuss alternative definitions.) We use the broad definition here but disaggregate figures by specific service industries (Table 1).

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Table 1

EMPLOYMENT BY SECTOR, FOR METROPOLITAN AND NONMETROPOLITAN AMERICA, 1970 AND 1977

Industrial Sector	Metropolitan		Nonmetropolitan		Total	
	1970	1977	1970	1977	1970	1977
Thousands of Employed Persons, 16 and Older						
Goods						
Agriculture, forestries, & fisheries	805	844	2,012	2,180	2,818	3,025
Mining	246	305	367	421	613	726
Construction	2,960	3,101	1,527	1,841	4,487	4,943
Manufacturing	13,793	13,576	5,857	6,737	19,650	20,313
Total, goods	17,804	17,826	9,763	11,179	27,568	29,007
Services						
Transport, communications, & utilities	3,818	4,088	1.273	1,583	5,091	5,641
Wholesale & retail trade	10,969	13,035	4,127	5,259	15,096	18,294
Finance, insurance, & real estate	3,143	3,967	672	963	3,815	4,930
Other services[a]	14,251	18,199	5,317	7,309	19,568	25,508
Public administration	3,135	3,565	989	1,246	4,124	4,811
Total, services	35,316	42,854	12,378	16,360	47,694	59,214
Total, goods & services	53,119	60,681	22,140	27,539	75,260	88,221

Percentage Change, 1970 to 1977

Industrial Sector	Metropolitan	Nonmetropolitan	All
Goods			
Agriculture, forestries, & fisheries	4.8	8.3	7.3
Mining	24.4	14.7	18.4
Construction	4.8	20.6	10.2
Manufacturing	- 1.6	15.0	3.4
All goods	0.1	14.5	5.2
Services			
Transport, communications, & utilities	7.1	24.4	11.4
Wholesale & retail trade	18.8	27.4	21.2
Finance, insurance, & real estate	26.2	43.3	29.2
Other services[a]	27.7	37.5	30.4
Public administration	13.7	26.0	16.7
All services	21.3	32.2	24.2
All goods & services	14.2	24.4	17.2

SOURCE: U.S. Bureau of the Census, *Social and Economic Characteristics of the Metropolitan and Nonmetropolitan Population: 1977 and 1970*, Current population reports, special studies, series P-23, no. 75, Government Printing Office: Washington, November 1978, pp. 88-89.

NOTE: Place of residence shown. Metropolitan areas as of 1970. Details may not add to totals because of rounding.

[a]Major categories are business & repair services, personal services, entertainment & recreation services, and professional & related services.

Trends

Using a broad definition of the service sector, Table 1 shows that national employment in the sector increased by 24 percent from 1970 to 1977. This is more than four times the growth in the goods sector. Each industry within the service sector grew faster than the average for all industries, except for the transport, communications, and utilities industry which is unusually capital intensive for the service sector. (As mentioned, many analysts exclude this industry from the service sector.)

In this period the nonmetropolitan service sector grew far faster than the metropolitan one: 32 versus 21 percent. In nonmetropolitan America, each service industry grew at least 65 percent faster than the goods sector. Finance, insurance and real estate, and other services grew the fastest. We will shortly see that these service industries are the most underrepresented in nonmetropolitan areas, compared to the metropolitan pattern. In nonmetropolitan areas, service industries grew even faster than the population (see Table 2). Perhaps the best indication of the service sector's importance to the nonmetropolitan economy is the fact that service growth accounted for 74 percent of the period's net gain in nonmetropolitan employment.

Service activity has traditionally been concentrated into densely settled areas. Table 2 shows this, using service employment relative to population as a simple yardstick. The most populous areas (metropolitan areas of a million or more) had 304 service employees per thousand residents in 1977 while the smallest areas (nonmetropolitan counties with no place of 2500 or more persons) had 221. Smaller metropolitan areas and nonmetropolitan counties with larger places had a service sector of intermediate size. In fact, moving from left to right in Table 2 shows the service sector systematically shrinking with smaller places.[1] Theories of geography and regional economics (especially central place theory) help explain this, and show the geographic and economic advantages often underlying service location in populous places.[2]

Central Place Theory

Developed by Walter Christaller (a geographer) and August Loesch (an economist), central place theory explains the patterns of the

Table 2

SERVICE EMPLOYMENT RELATIVE TO RESIDENT POPULATION,
BY SIZE OF PLACE, 1970 AND 1977

	Metropolitan Areas With Population:				Nonmetropolitan Counties Whose Largest Place Has A Population of:					
	1,000,000 or More		Less Than 1,000,000		25,000 or More		2,500 to 24,999		Less than 2,500	
Service Industry	1970	1977	1970	1977	1970	1977	1970	1977	1970	1977
	Employed Persons per Thousand Residents									
Transport, communications, & utilities	39	29	25	28	22	24	20	22	17	22
Wholesale trade	19	20	16	18	12	14	9	11	8	9
Retail trade	62	71	62	74	60	67	56	64	48	60
Finance, insurance, & real estate	26	30	19	24	14	17	10	13	7	13
Business & repair services	16	20	11	14	9	11	7	9	5	8
Personal services	16	16	18	18	17	21	18	18	16	15
Entertainment & recreational services	4	5	3	4	3	3	2	2	1	4
Professional & related services	70	88	69	88	67	86	57	72	46	71
Public administration	23	25	22	24	17	18	15	18	16	19
Total	267	304	245	293	223	260	193	229	164	221

SOURCE: *Social and Economic Characteristics of Metropolitan and Nonmetropolitan Population*, pp. 20-21, 88-89.

NOTE: Population and metropolitan status are as of 1970. Details may not add to totals because of rounding.

space-economy, that is, what causes economic activity to locate in one type of place or another. It particularly shows variations in economic activity with size of place, such as the hierarchy of market towns serving an agricultural hinterland, but can also show manufacturing-based hierarchies. Central place theory best predicts the space-economy when there is regionally uniform access to transport and to raw materials, as in the Great Plains, for example. Grossly oversimplifying central place theory, there are four determinants of spatial patterns. First, the higher the population density (actually, the demand density), the greater the size and number of market towns and the closer together they are located. Second, significant economies of scale cause large establishments to be widely spaced, so that their service areas are large enough to support them. Third, low transport costs also cause the wide spacing of service establishments. The fourth locational determinant--the most elusive--is "agglomeration economies," which encourage establishments in the same or different industries to cluster in one town. Agglomeration economies include the efficiency of shopping for different goods and services at one place, and productive efficiencies.

The patterns of Table 2 are summarized in Table 3's indexes which show the degree to which service industries are concentrated into the most populous areas. Some of the most concentrated of the service industries (e.g., wholesale trade, finance, insurance and real estate, and business and repair services) are so specialized as to require a location in a populous area and are heavily dependent on access to information. The least concentrated service industries (retail trade and personal services) are less esoteric and, generally speaking, have fewer economies of scale. This allows relatively small establishments to be located in a variety of areas.

When the four locational determinants change, so does the geography of the service sector. For example, the virtual desertion of some small market towns in the Great Plains in the last half century may be explained thereby. The surrounding agricultural population declined, while cheap automobile transportation allowed consumers to shop in larger towns that were farther away and thereby realize the economies of scale (compared to "Ma and Pa" groceries) newly offered by supermarkets. These events moved shopping to higher levels in the central place hierarchy, i.e., to larger towns with more varied functions. Mail-order shopping

Table 3

INDEX OF CENTRAL PLACE TENDENCY FOR DIFFERENT SERVICE INDUSTRIES, 1970 AND 1977

Service Industry	1970	1977
Transport, communications, & utilities	1.77	1.29
Wholesale trade	2.59	2.32
Retail trade	1.31	1.17
Finance, insurance, & real estate	3.51	2.32
Business & repair services	2.92	2.56
Personal services	1.03	1.07
Entertainment & recreational services	2.99	1.15
Professional & related services	1.53	1.25
Public administration	1.45	1.35
All services	1.63	1.38

SOURCE: Table 2. (Indexes here were calculated from more detailed figures than appear in Table 2.)

NOTE: The index of central place tendency is the number of employed persons per thousand residents for the largest areas (metropolitan areas of a million or more) divided by that figure for the smallest areas (nonmetropolitan counties with no place of 2,500 or more persons).

had the same effect, enabling isolated consumers to trade at large, distant market centers.

Table 3 shows a very different trend--a recent movement of service activities down the central place hierarchy. This is particularly true of some of the most specialized and urbanized service industries, i.e., wholesale trade, finance, insurance and real estate, and business and repair services. This recent trend may reduce many urban advantages in access to services and in the "urbanity" that specialized services provide. Below, we will explore this topic further.

Understanding the Service Sector

The service sector is heterogeneous, comprising lawyers and maids, musicians and bootblacks, groceries and universities, restaurants and garages, hospitals and parking lots. This diversity is but one reason that data and research are more lacking in this sector than in the rest of the economy. Other reasons are the multiplicity of small firms and establishments;[3] the nonstandardization of products and diversity of production processes (even within detailed industries), which deprives the Standard Industrial Classification of its primary organizing principles;[4] and the role of other than market forces. Nonprofit activities, both public and private, account for about a third of service-sector employment (Fuchs, 1968:10), while many profit-making activities are heavily regulated. Governments regulate finance, utility, transportation, and insurance companies, to cite a few; both professional organizations and government licensure regulate legal, medical, and educational activities. Perhaps most important is the belief of Adam Smith and other early economists that only the primary (agriculture and extraction) and secondary (manufacturing) industries are "productive" and the service sector is therefore parasitic. We will return to this attitude.

Interest in the service (or tertiary) sector began in the 1930s and 1940s, when Colin Clark (1940) and Allan Fisher (1935) viewed service expansion as an important cause and consequence of economic growth. Economic development, thus viewed, is the shift from an agrarian to an industrial to (in recent language) a "postindustrial" or service economy, less focused on material production or consumption than on intellectual

and leisure activities (Bell, 1973).[5] It has long been believed that, as capital formation and technological innovation increase incomes, consumer demand will rise more for services than for food and manufactured goods. Empirical research has questioned this assumption. The sketchy data assembled by Gallman and Weiss (1969) suggest that nineteenth century American industrialization and rising real incomes did not increase the role of the service sector. This is confirmed by Fuchs (1968:39-40), who finds that service sector output did not increase its share of GNP in the first half of this century. Because the income elasticity of demand for services (the percentage increase in service demand caused by a one-percent increase in income) is greater than unity, income growth in fact induces proportionately larger expenditures on services. However, some studies have found it not much larger than unity. (See, e.g., Fuchs, 1968:41-46, and Houthakker and Taylor, 1970:145-159.) If these findings are correct (and there is reason to believe that they underestimate income elasticities), then only a fraction of the growth in service employment can be explained by demand growth in a mature, high-income economy.[6]

If service sector output has roughly kept pace with GNP, then its disproportionate increase in employment can be caused only by this sector's failing to match the productivity gains in the rest of the economy. Fuchs (1967:3-4, 41-45) finds that in both 1929 and 1965 the service sector's output was 48 percent of GNP, by one measure. (Other measures of output yield similar results.) In this period, however, service sector employment increased from 40 to 55 percent of all employment, by Fuchs's definition. He argues that increased consumer and business demand for services accounts for only a small fraction of employment growth. Instead, productivity (measured as output per worker) grew more slowly in services than elsewhere in the economy: 1.1 percent annually, compared with 2.2 percent in manufacturing and 3.4 percent in agriculture. Fuchs cites four explanations for the slower productivity increase in services compared with manufacturing. First, workers' skills improved faster in manufacturing than in services. Second, physical capital probably grew faster in manufacturing. Third, hours per worker decreased more in services than in manufacturing, so that relatively more service

workers were needed and the differential producctivity *per hour* was not as great as the differential productivity per worker. Fourth, the residual suggests that "pure" technological improvement was slower in services than in manufacturing.

It is no surprise that the service sector has not matched productivity improvements in manufacturing or agriculture, but it may come as a surprise that productivity has increased at all. Both these facts are important. Some of the increases in service sector productivity stem from the same causes as those in manufacturing and agriculture: mechanization, such as computerized bank transactions (Gorman, 1969), and economies of scale gained through specialization, increased volume of business, and increased size of individual transactions--the supermarket replacing the grocery, for example (Schwartzman, 1969). This is not true of all service industries, however. Although electric clippers somewhat improved the efficiency of barber shops, the trend away from barber-shop shaves reduced transaction size to haircuts alone.

Other sources of productivity increase are specific to the service sector and show the confusion caused by analyzing food sold at retail, bank withdrawals, and restaurant meals as one would analyze the production of ball bearings. The nature of many services has changed (particularly because of segmentation and specialization), often resulting in reductions of quality that are hard to quantify. Pharmacists and medical specialists (and their nurses) now answer questions formerly posed to the family doctor. Whatever its other consequences, segmenting medical care loses the family doctor's overview of tangible and intangible aspects of health. The "Ma and Pa" grocery was a source of credit and news, and the butcher gave advice on cooking, but the supermarket checkout clerk provides none of these services. The comparison of checkout clerk with butcher also shows the substitution of lower- for higher-skilled labor, another way to increase apparent productivity. (The downgrading of skills in the service sector, by the way, is in sharp contrast with manufacturing, where automation and the elimination of many routine tasks have raised skill requirements.) Another source of productivity increase is having the customer perform certain tasks himself--filling out his own deposit slip at the bank and selecting his

own foods at the supermarket. Finally, certain tasks have been pushed backward in the production process when scale economies allow efficiencies. Food is packaged in the factory, not at the store, restaurants buy portion-controlled food, and the factory, not the druggist, compounds drugs. Whereas the seller previously guaranteed the product, the manufacturer often does now.

Consider the implications of slower productivity increase in the service than in the goods sector. Following the arguments of Baumol and Bowen (1966), imagine a two-sector economy in which farmers produce bread and poets produce poems. Technological improvement helps the farmer make more bread, raising his income. But the poet cannot automate to increase his output; his income falls relative to the farmer's and the price of poems rises relative to bread, decreasing the demand for poems and poets. The poetry industry is therefore in sorry straits, unless the income elasticity of demand for poetry (and the increase in farmers' incomes) exceeds the price effect, that is, the reduction in demand caused by poems' high relative price. Relatively slow productivity increases, all else equal, can therefore price a service activity out of the market, as happened with mechanisms that are cheaper to replace than repair, eliminating repair services.

Characterizing Service Activities

Production Processes. To understand the service sector's linkages with business and households, one must recognize that specific economic activities associated with the service sector may or may not be performed within that sector (Lengelle, 1966; Treadway, 1969; also see note 4). A farm or factory may repair its machinery itself, or it may contract with a repair firm. A household may cook at home, or it may dine out. At any time, the technology and scale of production and consumption, a firm's "maturity," and accessibility to service establishments (the last especially important in urban-rural comparisons) can influence whether a service activity is performed "in house" or not (Hoover and Vernon, 1959; Jacobs, 1969). A large, "mature" farm or factory will probably have its own full-time accountant, but a small or growing one cannot afford to. Instead, it will hire a piece of an accountant's services,

or perhaps even do its own nonprofessional accounting. Standardization and segmentation of production processes allow a service establishment to have an adequately large market (Glisson, 1978). To continue the example, accountants apply "generally accepted" auditing principles. The number and type of service establishments, and therefore accessibility to them, is a function of the spatial demand for service activities, that is, the number of demanders and the distance they (or the service they seek) will travel.

The foregoing, while apparent on reflection, is important in understanding that trends in service demands can change with production and consumption processes, their scale, the location of service demanders, and transport costs for services. The recent increase in service use by households (Linden, 1978)--e.g., restaurant meals and daycare centers--reflects a growing number of working wives, the increased value of their time, and related changes in what has been called the household production function. Thus, restaurant meals are now a more widely considered substitute for home cooking, as daycare is for supervision by the mother or relatives.[7]

That service activities are a part of production and consumption processes helps refute the lingering notion that services are somehow parasitic. Service enterprises can be efficient economic actors. Nonetheless, transferring the performance of an activity from its parent business or household to a free-standing service establishment does raise the concern of self-reliance, which we will discuss.

Household vs. Business Clients. A service enterprise (e.g., restaurant, plumber) may sell to households; or business bankers or freight forwarders may sell to businesses. At first glance, one might assume that many providers of household services are taking on tasks the household might do for itself, unlike business services, which attract firms that need them. Not so: the situations are parallel. A household may need a mortgage loan just as a factory may need to borrow for plant expansion. Both households and factories may seek specialists for repairs. And just as the local provision of specific business services may attract, retain, and encourage the expansion of those businesses benefiting from them, locally provided household services may also support and sustain households.

Exported vs. Nonexported Services. In a given locality, a service may be "exported" to outside businesses or households (e.g., nonlocal real estate or financial services) or may not be, as lawyers or supermarkets, for example, serve local clients. (Tourism is an export service, for its clients live away from the site of service provision--an example showing that we must consider clients who travel to service providers, as well as services shipped to clients.) Some nonexported services act as import substitutes, for otherwise they would be sought outside the locality; alternatively, nonexported services may substitute for those that the client firms or households would otherwise provide for themselves, or do without.

Import substitution of services makes an area *more* self-reliant, because it is less dependent on outside service providers. Import substitution can also tailor services to local conditions, needs, and goals. Financial and medical services are obvious examples, for any locality may be reluctant to place such vital needs in the hands of outsiders.

The export of services brings new money into the locality. The fact that so many services are not exported, however, causes a concern that the service sector may merely shift money within the local economy, unlike most agriculture or manufacturing. This fear is a modern form of mercantilism, the mistaken notion that an area's economic health comes only from export and not from internal exchange. After all, the global economy does not export. It functions like the mythical Irish village where everyone lived by taking in everyone else's washing.

Other Locational Characteristics. The exact locations of service providers affect the length and frequency of trips for service consumption and, more generally, access to services. Consider the convenience afforded by easy access to services. For example, a shopping trip yields more than purchases: It provides the stimulation of new products and faces and the sight of old faces. These are some of the features of urbanity, but people do not have to live in town to enjoy them; they can be enjoyed on visits to town. Those who do live in town benefit from assured access to its services even when winter makes travel difficult; and a "reverse commuter" can enjoy town life while commuting to an outlying workplace.

THE SERVICE SECTOR'S ROLES IN THE RURAL ECONOMY AND QUALITY OF LIFE

The following paragraphs identify topics bearing on the service sector's roles in rural areas.

Because the service sector is growing nationally, attracting service activity to one area does not inevitably take the activity away from another area. In other words, a locality that seeks service activity is not pursuing the same "beggar thy neighbor" strategy as chasing after the smokestacks of another locality's factories.

Service-sector activities have many desirable features from the standpoint of public goals for rural areas. They are labor-intensive and nonpolluting, and they make few demands on local public utilities, unlike factories, which may require soft water or sewage treatment (Shapiro et al., 1977). They are also energy-efficient, except for the transportation industry--only marginally a member of the service sector--and also except for the transportation of customers.

Some evidence (summarized by Fuchs, 1968) suggests that the service sector is countercyclical, does not lay off workers during recessions, and can therefore help smooth fluctuations in employment when an area is dependent on cyclically sensitive manufacturing. More generally, an expanded service sector can reduce a nonmetropolitan area's economic dependence on a single crop or other specialized pursuit.

Growth in the local service sector can absorb unemployed local workers leaving agriculture or manufacturing (Pursell, 1975). While this is an oft-stated goal, there is little research on whether expansion of the local service sector in fact achieves it. We have little data on whether the new jobs go to unemployed residents, or to already-employed residents, or to in-migrant workers, or to local residents newly entering the local labor force--housewives, for example. One study, however, found that new factories in small cities and rural areas draw only a minority of their workers from the local unemployed (Wright, 1968; see also Edgren, 1978, Judy and Jack, 1974, King, 1978, Scott and Wahi, 1974). The same may prove to be true for the service sector.

The service sector provides many opportunities for small entrepreneurs and family enterprises, which are rare in manufacturing and comparable only to the family farm of the past. Some research (Allaman and

Birch, 1975) suggests that far more jobs are created by new firms than by the expansion of existing ones. Employment in new firms, however, is less secure than it is in more mature ones. This is particularly true of new small proprietorships, frequently undercapitalized and with little hard knowledge of their market. Moreover, like family farms, family enterprises in the service sector may disguise underemployment by using workers inefficiently (Judy and Jack, 1974).

Although the service sector includes doctors and lawyers, it has more busboys and checkout clerks--jobs generally regarded as dead-end. (Dead-end jobs may still retain residents and be useful to the economy, but they do not advance disadvantaged groups. Moreover, many rural areas are in a position to choose the economic activity they want. Does it serve the locality's purposes?) The theory of the dual labor market (Gordon, 1972) asserts that many service-sector industries offer secondary labor market jobs without the possibility of economic advancement, relegating service-sector workers to permanently low incomes. However, one empirical test, based on job histories in New York City (Lowell, 1978), found that jobs in the secondary labor market did not impede economic advancement. Is this true of rural economies as well?

The seasonality of many service activities (tourism especially) is a disadvantage to those who want to work the whole year, but an advantage to others, perhaps by allowing them to combine service-sector employment with farming. (This combination has not been studied extensively, but see Coughenour and Gabbard, 1977.) Similarly, long hours and evening and weekend work are disadvantageous for most people, but the owner of a small enterprise can set his own schedule.

Service-sector activities that serve businesses can help make them more efficient, attracting new firms and inducing existing ones to stay. The resulting economic opportunities help to retain existing residents and attract recent out-migrants into returning. Multiplier analysis quantifies linkages within the local economy. Recently, multipliers have been estimated by Braschler and Kuehn (1976), Conopask (1978), Elrod and Laferney (1970), Garrison (1974), Jones (1978), Jones and Mustafa (1972), Klindt (1977), and Klindt and Smith (1976). Those multipliers vary widely but generally increase with the local economy's size and diversity, which tend to contain linkages.

Not only can broadened and varied economic opportunity retain residents and attract return migrants, but an expanded service sector can also enhance the quality of rural life. Cities provide cultural activities and other forms of entertainment, exciting and varied wares, restaurants, and the like. Low spatial density of demand makes it difficult for rural areas to do the same, but increasing transportation costs and new means of service provision may change the current space-economy.

A FUTURE SCENARIO

Armed with central place theory and six reasonable assumptions (based on current trends), we will explore implications for the future of the rural service sector. (1) Assume the continued decentralization of population and manufacturing (for a while, if not indefinitely) to smaller urban areas and rural areas, both adjacent to big cities and not. (2) Assume also a continued rise in real income, plus continued return migration of country folk back from cities and reverse migration of the city-born to the countryside. These two assumptions place people in rural areas who have been exposed to "citified" services (especially, easy accessibility to them) and city incomes, for we additionally assume here a continued narrowing of the gap between urban and rural real incomes. (3) Moreover, assume that changes in the technology of production and consumption will continue to increase the demand for business and personal services (some quite sophisticated and esoteric) in rural as well as urban areas. Otherwise put, services will continue to be segmented and standardized, and thus can be performed "out-of-house."

Having established conditions for the increased demand for services by rural firms and households, consider changes in the supply of services by rural providers. (4) Assume that energy costs sharply increase the relative price of transportation, particularly by automobile, which will remain the dominant rural mode for trips of any length, aside from goods shipments. All things being equal, the rise in transport costs can reduce the length of trips taken to purchase or consume services. Shorter trips would themselves be conducive to smaller, less specialized, more clustered services, which is the old Great Plains pattern, but this is not the only possible outcome. Alternatively, increased transport

costs may reduce trip frequency or increase the number of multipurpose trips, possibilities worthy of consideration. (5) Assume that the cost of communication and information processing continues to drop sharply, resulting in a "wired society"--homes and businesses with computer terminals and cheap, long-distance communication channels. This is not farfetched. Satellites are now efficiently used for data transmission and telephone calls; light-beam communication and cheap memories are fast developing; and integrated circuitry has cut the cost of computation so much that a home-computer industry is emerging. Ten years ago, who would have predicted computerized toys?

The high and rising cost of transportation relative to communication will sharply divide services by the degree to which their costs (to service clients, as well as service providers) are dependent on transportation or on communications. Services that are totally communications dependent (routine bank transactions, for example) can be supplied and consumed, essentially without regard to location. With electronic transfer of funds, the need for trips to the bank for ordinary transactions will all but cease, as will the need to centralize banks' processing operations.

Other services depend at least partially on transportation. Dining out requires transport of both diners and food to the restaurant. Shopping occupies an intermediate position. Communications alone can supply information about goods, check stocks, and make purchases, but the goods themselves must be shipped.[8]

Finally (6), there will be continued refinements in the technology of much of the service sector based on communications improvement and the routinization and segmentation of service functions. These refinements will reduce economies of scale in service provision, allowing many small but specialized providers to prosper. Physicians, for example, will be able to communicate at a distance with esoteric diagnostic apparatus and with specialist colleagues. Computerized inventories and catalogs will speed ordering and make small stores more efficient. A vastly expanded capability for information retrieval and transmission will reduce the need for large central libraries. Distributed data processing and "smart" computer terminals will decentralize computing and reduce its scale.

In our scenario, rural residents and businesses no longer have far less access than do urbanites to specialized but communications-dependent services. An exception is transportation-dependent services: City dwellers will still have much more access to restaurants and concert halls. Nevertheless, the frequent reduction of the necessary scale of service provision will allow greater access to such services for the residents of even low-density areas. Following the example of bookmobiles and mobile health facilities, specialized, transportation-dependent services might themselves periodically travel to central places in low-density areas, for this is more transportation-efficient than moving clients to services. The delivery of some transportation-dependent services in the future may come to resemble medieval trade fairs and periodic markets in present-day underdeveloped countries, an efficient way to deliver many specialized services when transportation costs are high.[9] Coordinating the itineraries of traveling service providers so that related services travel together will reap agglomeration economies in production and consumption, the latter enabling consumers to make multi-purpose trips. A cluster of traveling service providers can also bring to small places the new faces, new activities, and general bustle of a big city.

CONCLUSIONS

In the hypothetical future sketched out, the traditional lack of rural access to specialized "citified" services is greatly reduced. A wired society gives country folk the same access to television, bank transactions, and professional consultation that city dwellers enjoy. There will still be an urban advantage for services that have bulky inputs or outputs, or that require customer presence for production or consumption, although technological advances that minimize economies of scale may reduce the urban advantage.

This process, we have seen, has already begun. In the 1970s, services have moved down the central place hierarchy, reducing relative urban concentrations. The trend is most pronounced in finance, insurance and real estate, and in business and repair services, two service industries with a strong urban focus.

Bringing traditionally urban services to the countryside is not a new phenomenon in American history. Waves of migrants washing over the nation, population movements between city and country, and the spreading of new styles of consumer goods through mail-order catalogs--all of these have avoided many of the rural-versus-urban and inter-regional cultural differences that have occurred elsewhere (Boorstin, 1973). Expanding rural access to traditionally urban services is yet another means of national unification.

In exploring the future of the rural service sector, this essay has identified gaps in knowledge, particularly the lack of detailed empirical information on current locational trends. Three specific questions are most important for future research. First, when a rural service industry expands, who gets the new jobs, current residents or in-migrants; those currently employed or the unemployed? One would expect that characteristics of the rural economy and of the new service activities interact here, particularly the skill mix in the labor force, the skills required by the new services, and the extent of local unemployment or underemployment. Second, to what extent do specific types of service-sector jobs provide opportunities for economic advancement, as opposed to dead-end jobs? A growing local economy with many job openings may help a worker transfer the skills learned in one service-sector job to a better job. Third, to what extent do rural residents believe that access to specific services, particularly specialized ones, enhances their quality of life? Do migrants returning from cities miss urban services and bring urban tastes for services with them? Do reverse migrants, former city dwellers, tend to establish new service enterprises?

This essay has also raised issues of public policy. Specifically, how may localities guide service-sector growth to attain their goals and avoid untoward consequences? How may state and federal governments assist in this process, providing localities with the means to guide service-sector growth?

By substituting for imported services, growth in local services can integrate the local economy and orient it to local goals, reducing dependence on other areas. This is already the case with banking because

many states limit city banks' expansion into the countryside. On the other hand, the use of service enterprises does militate against the common rural tradition of doing for oneself. This conflict may be more symbolic than real, however. After all, the tradition of doing for oneself was likely born of necessity, given the past rural inaccessibility to citified services. As accessibility increases, the tradition may wane.

Land use policy, highway construction, lending policy, and professional licensure plus other forms of regulation are the prime means by which different levels of government can guide the growth of the rural service sector. Controls on land use and highways strongly influence the location of the many service activities (such as retail trade) that depend heavily on accessibility to their clientele. Such controls can channel service establishments into the most appropriate locations, gaining shopping efficiency and avoiding sprawled commercialization. Lending policies (e.g., for public funds or loan guarantees) may affect the competitive standing of new, existing, or newly enlarged service establishments. Licensure and other regulatory practices can, for example, influence the spread of banks' branch offices or require minimum-size facilities and thus discourage service establishments in sparsely settled areas.

The automobile has taken business away from many small-town Main Streets. Current growth in the service sector, guided away from forming new, peripheral shopping centers, can revitalize Main Street. Revitalization would exploit Main Street's existing physical capital, central location, and (for small towns with low densities of businesses) good automobile access and parking facilities.

FOOTNOTES

* A draft of this paper was presented July 1979 to the Future of Rural America Advisory Group, Farmers Home Administration, United States Department of Agriculture. This paper will appear in *The Future of Nonmetropolitan America* (Amos H. Hawley and Sara Mazie, eds.), to be published by the University of North Carolina Press. I am indebted to the members of the advisory group and also to my Rand colleagues Brent Bradley, Will Harriss and Barbara Quint for their helpful comments.

1. Exceptions: Personal services (e.g., laundries, beauty, barber, and shoe repair shops; and funeral parlors) do not show the usual variation with size of place. In 1977 only there was somewhat more retail trade in small than large metropolitan areas. Also in 1977, the smallest nonmetropolitan counties violated the pattern for public administration and entertainment and recreational services. (Is the sharp increase in the latter a recreational spurt in the most rural counties?)

2. Unfortunately, there appears to be little literature on recent locational trends in the rural service sector. (But see Johnson, 1979, for retail trade.) No one has updated the classic study of Perloff et al. (1960). The important work by Fuchs (1968) considers no locational matters, examining instead aspatial questions of productivity, for example. Clearly, empirical research should fill this gap.

3. For example, about two-thirds of the manufacturing labor force works in firms with 500 or more employees. While this figure varies in service industries, it is seven percent in wholesale trade and one-third in finance, insurance, and real estate. Even in those service industries where employment is most concentrated into large establishments--non-governmental hospitals and local government--employers of 500 or more account for only half of

3. (con't) the labor force. Moreover, profit-making service firms are usually owner-managed, and are often noncorporate (Fuchs, 1968: 10, 190).

4. As an example of the resulting anomalies, automobile repair services are classified under "other services" (a category that includes "miscellaneous repair services"); railroad repair shops are in the railroad transportation category (part of "transportation, communications, and utilities"); and ship and boat repair appear under manufacturing, as part of "transportation equipment." Moreover, certain "agricultural services" (e.g., soil preparation, crop protection, crop harvesting, crop preparation, veterinary care, and farm labor contractors) are grouped with agriculture.

5. A phenomenon emergent in the last decade may, however, belie the notion that economic growth is necessarily a transition from primary to secondary and tertiary activities. For the first time in this century, worldwide prices of primary products have grown relative to secondary products--manufactured goods. Oil is only the most striking example of a phenomenon that includes many mining, farm, and fishery products.

6. Without going into detail, it is sobering to sketch some difficulties of analytical research in this area. To measure "real" service output and consumption, one must control for the price inflation of unstandardized services undergoing changes in quality, as well as the invention of new services and the demise of outmoded ones. At the extreme of difficulty, government output is currently simply defined as the cost of its inputs, preventing any measurement of productivity. See, generally, Fuchs (1969).

7. Not only are households consuming more services, but a growing fraction of services are unrelated to care of the home (Linden, 1978).

8. I assume, of course, the purchase of material goods, not information (e.g., books or music) that may be shipped via communication channels.

9. In developed countries, touring orchestras and lecturers already practice this mode of service delivery. Their services are so specialized that no one service area can continuously support them.

REFERENCES

Allaman, Peter M., and David L. Birch. *Components of Employment Change for Metropolitan and Rural Areas, by Industry Group, 1970-72,* Joint Center for Urban Studies of M.I.T. and Harvard University, Working Paper No. 8, 1975.

Baumol, William J., and William G. Bowen. *Performing Arts--The Economic Dilemma.* New York: Twentieth Century Fund, 1966.

Bell, Daniel. *The Coming of Post-Industrial Society.* New York: Basic Books, 1973.

Berry, Brian J. L. *The Geography of Market Centers and Retail Distribution.* Englewood Cliffs, N.J.: Prentice-Hall, 1967.

Boorstin, Daniel J. *The Americans: The Democratic Experience.* New York: Random House, 1973.

Braschler, Curtis and John A. Kuehn. "Estimation of Employment Multipliers for Planning in Ozarks Nonmetropolitan Counties." *Southern Journal of Agricultural Economics* 8:1 (July 1976):187-192.

Clark, Colin. *The Conditions of Economic Progress.* 1st ed. London, 1940.

Conopask, Jeff V. *A Data-Pooling Approach to Estimate Employment Multipliers for Small Regional Economies.* Washington: U.S. Dept. of Agriculture, Economics, Statistics, and Cooperatives Service, 1978.

Coughenour, C. Milton, and Anne V. Gabbard. *Part-Time Farmers in Kentucky in the Early 1970's: The Development of Dual Careers.* Lexington: University of Kentucky, 1977.

Edgren, Gus. "Employment Adjustment to Trade Under Conditions of Stagnating Growth." *International Labor Review* 117:3 (May-June 1978):289-303.

Elrod, Robert H., and Preston E. Laferney. *Sector Income and Employment Multipliers.* Washington: USDA Technical Bulletin Number 1421, July 1970.

Fisher, Allan G. B. *The Clash of Progress and Security.* London: 1935.

Fuchs, Victor R. *The Service Economy.* New York: National Bureau of Economic Research, 1968.

Fuchs, Victor R. (ed.). *Production and Productivity in the Service Industries.* New York: National Bureau of Economic Research, 1969.

Gallman, Robert E., and Thomas J. Weiss. "The Service Industries in the Nineteenth Century," in Fuchs 1969, pp. 287-351.

Garrison, Charles B. "Industrial Growth in the Tennessee Valley Region, 1959 to 1968." *American Journal of Agricultural Economics* 56:1 (February 1974):50-60.

Glisson, Charles A. "Dependence of Technological Routinization on Structural Variables in Human Service Organizations." *Human Behavior* 23:3 (September 1978):383-395.

Gordon, D. M. *Theories of Poverty and Underemployment: Orthodox, Radical, and Dual Labor Market Perspectives.* Lexington, Mass.: D. C. Heath, 1972.

Gorman, John A. "Alternative Measures of the Real Output and Productivity of Commerical Banks," in Fuchs 1969, pp. 155-188.

Hoover, Edgar M., and Raymond Vernon. *Anatomy of a Metropolis.* Cambridge: Harvard University Press, 1959.

Houthakker, H. S., and Lester D. Taylor. *Consumer Demand in the United States.* 2nd ed. Cambridge: Harvard University Press, 1970.

Jacobs, Jane. *The Economy of Cities.* New York: Random House, 1969.

Johnson, Kenneth. *The Impact of Population Decline on Organization of American Counties, 1920-1970,* unpublished dissertation, University of North Carolina: Chapel Hill, 1979.

Jones, C. D., Jr. *Input-Output Analysis Applied to Rural Resources Development Planning.* Washington: U.S. Dept. of Agriculture, Economics, Statistics, and Cooperative Service, March 1978.

Jones, Lonnie L., and Gholam Mustafa. *Structure of the Texas Economy: Emphasis on Agriculture.* Texas Agricultural Experiment Station, May 1972.

Judy, Kerlin R., and Robert L. Jack. *Impact of a New Greenhouse Complex on Income and Employment in a Rural Community in West Virginia.* Morgantown: West Virginia Agricultural Experiment Station, November 1974.

King, Allan G. "Industrial Structure, the Flexibility of Working Hours, and Women's Labor Force Participation." *Review of Economics and Statistics* 60:3 (August 1978):399-407.

Klindt, T. H., and G. F. Smith. "Economic Interrelationships in a Rural Tennessee Economy." *Bulletin of the University of Tennessee Agricultural Experiment Station,* No. 570, June 1977.

Lengelle, Maurice, "Growth of the Commerce and Services Sector in Western Europe." *Manpower Problems in the Service Sector.* Paris: OECD, 1966.

Linden, Fabian. "Service, Please!" *Across the Board* 15:8 (August 1978):42-45.

Lowell, R. F. "Testing a Dual Labor-Market Classification of Jobs." *Journal of Regional Science* 18:1 (1978):95-103.

Perloff, Harvey S., et al. *Regions, Resources, and Economic Growth.* Baltimore: John Hopkins University Press, 1960.

Pursell, Donald E., et al. *Trade Adjustment Assistance: An Analysis of Impacted Worker Benefits of Displaced Workers in the Electronics Industry.* Center for Manpower Studies. Memphis, Tenn.: Memphis State University, 1975.

Schwartzman, David. "The Growth of Sales Per Man-Hour in Retail Trade, 1929-1963," in Fuchs 1969, pp. 201-229.

Scott, John T., Jr., and P. L. Wahi. "Factors Affecting the Labor Supply Schedule in an Industrializing Rural Area." *Illinois Journal of Agricultural Economics* 14:1 (January 1974):31-35.

Shapiro, B. I., et al. "The Impact of Employment Expansion on Rural Community Services Expenditures: A Small Area Model." *Southern Journal of Agricultural Economics* 9:1 (July 1977): 57-62.

Stigler, George J. *Trends in Employment in the Service Industries.* New York: National Bureau of Economic Research, 1956.

Treadway, Arthur B. "What is Output? Problems of Concept and Measurement." in Fuchs 1969, pp. 53-83.

Wright, Emmett Earl. *Industrial Experience in Small City Job Markets.* Unpublished dissertation, Arkansas University: Fayetteville, 1968.